

APPLICATION
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TITLE: CLIMBING PLAYSETS

APPLICANT: BARRETT W. BROWN

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Climbing Playsets

TECHNICAL FIELD

This invention relates to climbing playsets for children and methods of constructing such playsets.

BACKGROUND

Play areas for children, such as backyards and community playgrounds, often include playsets (sometimes referred to as “jungle gyms”) designed to allow children to climb and may also include other play items such as swings and/or a slide. Such playsets are in some cases made of a wood suitable or treated for exposure to the weather, for example cedar or treated lumber. Climbing playsets may include integrated climbing structures, for example climbing rungs that extend between upright members of the playset. Including a variety of climbing options, such as climbing rungs, ladders and steps, may facilitate development of a child’s motor skills and enhance play.

SUMMARY

The present invention features climbing playsets formed at least in part with interchangeable support members, and methods of constructing such playsets.

In some implementations, at least some of the support members are interchangeable both within the playset and with support members used in one or more playsets having different configurations. For example, a relatively small number of different types of support members, e.g., five or less, may be used to create a climbing playset, and different combinations of the same types of support members may be used to create a variety of climbing playsets having different configurations. This interchangeability of support members simplifies both manufacturing and assembly of the playsets. Interchangeability also allows playset manufacturers and retailers to stock a relatively smaller number of different types of support members, thereby simplifying inventory control. The lengths of the interchangeable members may be selected so as to reduce scrap wood generated when support members must be cut to required lengths. In some cases, multiple support members are spliced together to create longer compound members, allowing tall climbing structures to be built without the need for impractically long, single-piece support members.

[The remainder of this section paraphrases the claims, and will be filled in after the claims have been discussed and edited.]

The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Other features and advantages of the invention will
5 be apparent from the description and drawings, and from the claims.

DESCRIPTION OF DRAWINGS

FIGS. 1 and 2 are perspective views of two climbing playsets having different configurations.

FIG. 3 is a perspective view of a playset having an alternative configuration.

10 FIGS. 4-4C are plan views of each of the four faces of a first support member used in the playsets shown in FIGS. 1 and 2.

FIGS 5-5A are plan views of two faces of a second support member used in the playsets shown in FIGS. 1 and 2. FIG. 5B is an end view of the support member shown in FIGS. 5-5A.

15 FIGS 6-6A are plan views of two faces of a third support member used in the playsets shown in FIGS. 1 and 2. FIG. 6B is an end view of the support member shown in FIGS. 6-6A.

FIGS 7-7A are plan views of two faces of a fourth support member used in the playsets shown in FIGS. 1 and 2. FIG. 7B is an end view of the support member shown in FIGS. 7-7A.

20 FIGS 8-8A are plan views of two faces of a fifth support member used in the playsets shown in FIGS. 1 and 2. FIG. 8B is an end view of the support member shown in FIGS. 8-8A. In the figures showing the second, third, fourth and fifth support members, the remaining two faces are not shown because they are blank, i.e., they do not include any drilled holes.

FIG. 9 is an enlarged, exploded detail side view of area A of FIG. 3, showing spliced upright members.

FIG. 10 is an enlarged detail view illustrating an alternative splicing arrangement.

25 FIG. 11 is an end view of an upright used in the splicing arrangement shown in FIG. 10.

FIGS. 12-15 are diagrams showing the footprints of various alternative climbing playsets, with the corresponding arrangements of support members indicated.

DETAILED DESCRIPTION

Referring to FIG. 1, a climbing playset 10 includes a lower level 12, an upper level 14, and a top portion 16 extending above upper level 14. Upper level 14 includes a floor 15. Top
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portion 16 includes a single horizontal bar 17 extending between a pair of opposed vertical members U1. Vertical members U1 are adapted to support one or more yardarms or other accessories, as will be discussed below, while bar 17 stabilizes the vertical members and provides support for an optional roof canopy (not shown).

5 The playset 10 is constructed with a plurality of upright members 18. The upright members 18 are joined at their respective bases by horizontal frame members 20, and at the top of the upper level by horizontal frame members 22. The upright and horizontal frame members define walls that are substantially open, i.e., that are not sided or otherwise covered. Dowels 61 extend between the upright members at the top of the lower level, to join the upright members 10 during the assembly process and to support the floor 15.

Climbing rungs 26 extend between some of the upright members 18, to provide integrated climbing ladders 24. The playset may also include permanent or removable stair steps (not shown). Removable stair steps for use in climbing playsets are described in U.S. Patent Application _____, the complete disclosure of which is incorporated herein by reference. 15 In the playset shown in FIG. 1, each side of the playset includes a single ladder 24, and an adjacent door opening 25.

20 A climbing playset 100 having a different configuration is shown in FIG. 2. In this playset, two opposite sides 102, 104 are the same as the sides of the playset shown in FIG. 1, i.e., these sides include a single ladder 24 and a door opening 25. The other two sides 106, 108 include two ladders 24, one on each side of a central door opening 126. Playset 100 also differs from playset 10 in that playset 100 includes a box-shaped top portion 116 having three horizontal bars 117.

25 Another feature of the playsets shown in FIGS. 1 and 2 is the construction of the top portion 16. In some cases it may be difficult to obtain and/or store and ship long support members that extend from the ground to the top of the top portion. Moreover, such long beams are not readily interchangeable for use in shorter structures. Thus, in the preferred embodiment shown in FIGS. 1-3, the upright members forming the top portion are constructed by splicing together two or more shorter beams, as will be discussed in detail below.

30 Each of the climbing playsets shown in FIGS. 1 and 2 can be constructed using the five types of support members shown in FIGS. 4-8 as the upright members 18. These support members are labeled "XC1," "L1," "L2," "U1," and "U2," respectively, in FIGS. 1 and 2, with

“C” indicating that the support member functions as a corner member, “L” indicating that the support member functions as a lower upright, either alone or in a compound, spliced upright (discussed below), and “U” indicating that the support member functions as the upper portion of a compound, spliced upright.

5 The same support members can be used to construct a wide variety of other climbing playsets, including, for example, the more complex playset 300, shown in FIG. 3, which is larger than the playsets shown in FIGS. 1 and 2 and includes a roof structure 19.

The support members used to construct the playsets shown in FIGS. 1-3 are shown in detail in FIGS. 4-8A.

10 Support member XC1 is shown in FIGS. 4-4C. Each corner support member XC1 includes a plurality of pre-drilled holes that serve various purposes. For example, bolt holes 60 and 60A, drilled at right angles to each other, are provided to allow a set of monkey bars or other accessory to be bolted to the member XC1, and bolt holes 64 and 64A are provided to allow a yardarm or swing support to be bolted on. Bolt holes 62 and 62A are provided to allow the bottom 15 of each member XC1 to be bolted to a horizontal stabilizing member. These bolt holes are provided in pairs, drilled at right angles to each other, so that the corner support members can be oriented in any direction relative to the accessories and/or stabilizing members. An additional five blind holes 66 are dimensioned to receive climbing rungs 26. These holes are drilled into the faces shown in Figs. 4B and 4C, which are disposed 90 degrees from each other, so that the 20 playset may include ladders on both sides of each corner, as shown in FIGS. 2 and 3. The holes are blind holes so that each of the faces opposite the faces with the holes is smooth and free of holes in the ladder/door opening area.

25 Lower support members L1 and L2 are shown in FIGS. 5-5B and 6-6B, respectively. These support members are mirror images of each other, allowing a door opening to be formed with integrated ladders on each side (e.g., door opening 126 in Fig. 3). Members L1 and L2 each include four blind holes 68, dimensioned to receive climbing rungs 26, and one through hole 70, dimensioned to receive dowel 61 (shown, e.g., in Fig. 3). Members L1 and L2 also each include a bore 54, drilled in the upper end of the member, and pilot holes 72, drilled perpendicular to bore 54, for receiving a splicing peg and screws to stabilize the peg, as will be discussed below.

30 Upper support members U1, shown in Figs. 7-7B, include a corresponding bore 54 and pilot holes 74, for receiving and securing the opposite end of the splicing peg. Members U1 also

include a bolt hole 76 at the same height (when U1 is spliced to L1 or L2) as bolt holes 60 and 60A of corner support member XC1, and thus can be used to provide a second attachment point for an accessory bolted to bolt hole 60 or 60A, e.g., a set of monkey bars that need to be secured at two or more points. Member U1 also includes a pair of bolt holes 78 that may be used to 5 secure member U1 to a yardarm or to horizontal member 22 (shown, e.g., in Fig. 3) to provide stability to member U1. At its upper end, U1 includes a blind hole 80, to receive a horizontal stabilizing member (e.g., bar 17, Fig. 1), and a bolt hole 82 that allows a yardarm or other accessory to be attached to the top of the playset, e.g., to allow a rope ladder to be mounted at the 10 top of the playset. U1 may have any desired length, but is generally sized so that, when spliced to L1 or L2, the spliced upright member will have a height that is about 2 to 5 feet higher than the height of corner support members XC1. This additional height provides the top portion or roof of the playset.

Member U2, shown in FIGS. 8-8B, is shorter than member U1 and is generally dimensioned so that when U2 is spliced to L1 or L2 the resulting spliced beam is substantially 15 the same height as the corner support members XC1 (e.g., as shown in FIGS. 1-3). Like member U1, member U2 includes a bore 54, pilot holes 74 and bolt hole 76.

Any structural members that are not bolted on using the pre-drilled bolt holes are generally lagged in place.

The playsets shown in FIGS. 1-3, and other playsets that may be constructed using the 20 same support members, are generally assembled by first connecting the corner members (XC1 support members) to the lower upright members (L1, L2) to form the walls of the lower level. This is generally accomplished by first inserting climbing rungs to form the integrated ladders and joining the uprights in the desired arrangement using horizontal dowels, and then attaching the horizontal frame members 20 at the bases of the uprights to stabilize the walls. Generally, 25 these steps are performed for two sides of the playset at a time, and then the two two-sided assemblies are joined to form the completed lower level. After the lower level has been completed, pre-assembled floor platforms are installed at the top of the lower level, forming the floor of the upper level. After the floor is in place, the upper support members (U1, U2) are spliced to the lower support members (L1, L2) in the desired configuration to form the upper 30 level (using the shorter U2 members) and/or the top portion or roof (using the longer U1

members). The horizontal members 22 are then attached to the uprights to stabilize the upper level.

At appropriate points in the assembly process, braces, yardarms and/or accessories may be added to the playset as desired.

5 The lower and upper members can be spliced together, to form the top portions shown in FIGS. 1 and 2, and the roof structure shown in FIG. 3, using any of a variety of splicing techniques. For example, as shown in FIG. 9 and area A of FIG. 3, upright 18 may be formed by bolting together two partial uprights 18A and 18B having corresponding splicing portions 50.

10 Alternatively, as shown in FIG. 10, the partial uprights can be spliced together by inserting a peg 52 into corresponding bores 54 (FIG. 11) in the facing ends of partial uprights 118A and 118B. Peg 52 may be formed of any strong, rigid material, for example aluminum. The peg 52 is then held securely in place by a plurality of screws 56. This splicing method would be used with the support members shown in FIGS. 5-8, since these members include the necessary bores and do not include the notched structure required for the method shown in FIG. 15 9.

15 Constructing the top portion support members using spliced compound members generally reduces the cost of shipping, as compared to shipping full length beams, and reduces material cost (shorter beams are generally more readily available and less expensive than longer ones) and waste.

20 The support members may have any desired dimensions. A set of support members could, for example, have the following approximate dimensions (referring to the dimension lines shown in Figs. 4-8A, with dimensions given in inches):

XC1: A=3.75; B=1.88; C=1.88; D=15; E=25.75; F=36.38; G=47.00; H=57.63; I=75.25; J=84.13; K=98.00; total length = 100.00.

25 L1/L2: A=3.25; B=2.00; C=1.00; D=15.00; E=25.75; F=36.38; G=47.00; H=57.63; I=1.88; J=3.75; total length = 66.00.

U1: A= 3.25; B=2.00; C=1.00; D=10.25; E=27.25; F=29.00; G=62.50; H=64.13; I=1.88; J=3.75; total length = 66.00.

U2: A= 3.25; B=2.00; C=1.00; D=10.25; E=30.00 (total length); I=1.88; J=3.75.

30 These dimensions can be varied to any desired extent. For example, the dimensions may be varied proportionally, e.g., by about 0 to \pm 50%, to provide larger or smaller playsets having

similar designs. If other designs are desired, the dimensions can be varied in a non-proportional manner, and/or different drilling patterns may be used.

5 A number of embodiments of the invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention.

For example, as mentioned above, the support members discussed herein can be used to form many other types of playsets, in addition to those shown in FIGS. 1-3. Footprints of four other types of playsets that may be constructed with these uprights are shown in FIGS. 12-15. In 10 these figures, the designations "L1/U1," "L1/U2," etc., indicate spliced beams. FIG. 12 shows the footprint of a square playset without a top portion, formed of four XC1 support members. FIG. 13 shows the footprint of a rectangular playset formed of four XC1 support members with a simple top portion formed of two compound members, each of which includes an L1 support member spliced to a U2 support member. FIG. 14 shows a large square playset including four 15 XC1 posts, with a top portion constructed of eight compound members constructed of spliced support members as indicated. FIG. 15 shows an octagonal gazebo without a top portion, constructed of eight XC1 posts. These are merely a few additional examples of the many types of playsets that may be constructed using the same set of support members.

Moreover, the same principles of interchangeability can be utilized to create different sets 20 of support members having other lengths and drilling patterns, for interchangeable use in other playset designs.

Accordingly, other embodiments are within the scope of the following claims.